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Case No.: 58504US002

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

First Named Inventor: SOLYNTJES, ALAN J.

Application No.: 10/750077 Confirmation No.: 2080

Filed: December 31, 2003 Group Art Unit 3771

Title: PERSONAL RESPIRATORY PROTECTION DEVICE THAT HAS A  
PERMANENT OR SEMI-PERMANENT BAYONET CONNECTION

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**BRIEF ON APPEAL**

Mail Stop: Appeal Brief-Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**CERTIFICATE OF TRANSMISSION [37 CFR § 1.8(a)]**

I hereby certify that this correspondence is being transmitted to United States Patent and Trademark Office on the date shown below via the Office electronic filing system.

July 2, 2009

/Susan M. Dacko/

Date

Signed by: Susan M. Dacko

Dear Sir:

This is an appeal from the final Office Action mailed on February 19, 2009.

**Fees**

- Any required fee under 37 CFR § 41.20(b)(2) will be made at the time of submission via EFS-Web. In the event fees are not or cannot be paid at the time of EFS-Web submission, please charge any fees under 37 CFR § 1.17 which may be required to Deposit Account No. 13-3723.
- Please charge any additional fees associated with the prosecution of this application to Deposit Account No. 13-3723. This authorization includes the fee for any necessary extension of time under 37 CFR § 1.136(a). To the extent any such extension should become necessary, it is hereby requested.
- Please credit any overpayment to the same deposit account.

A Notice of Appeal in this application was submitted to the USPTO on May 18, 2009.

**REAL PARTY IN INTEREST**

The real party in interest is 3M Company (formerly known as Minnesota Mining and Manufacturing Company) of St. Paul, Minnesota and its affiliate 3M Innovative Properties Company of St. Paul, Minnesota.

**RELATED APPEALS AND INTERFERENCES**

Appellants are unaware of any related appeals or interferences.

**STATUS OF CLAIMS**

Claims 1-27 are pending in this patent application. No claims are withdrawn from consideration. Claims 1-27 stand rejected and are the subject of the present appeal.

**STATUS OF AMENDMENTS**

No amendments have been filed after the final rejection.

**SUMMARY OF CLAIMED SUBJECT MATTER**

In brief summary, the present invention provides a personal respiratory protection device that comprises:

- (a) a mask body that is adapted to fit at least over a person's nose and mouth;
- (b) at least one fluid communication component located in fluid communication with the mask body so that a non-contaminated source of oxygen can be supplied to a wearer of the personal respiratory protection device;
- (c) at least one non-contaminated breathing gas supply source component; and
- (d) at least one bayonet attachment system that enables the breathing gas supply source component to be fluidically communicatively secured to the fluid communication component. The bayonet attachment system comprises a first portion and a second portion, wherein when the first portion is attached to the second portion with a connection that is incapable of being inadvertently separated.

The present invention provides a security feature for coupling personal respiratory protection device components that utilize a bayonet-style attachment system. The security

feature inhibits accidental disengagement of the bayonet connection, and, in some embodiments, eliminates disengagement. The connection cannot be loosened or unlocked without destructive breaking of a portion of the bayonet attachment system or without use of a key. The connection therefore cannot be inadvertently disengaged or unlocked through accidental positive torque. Such a connection is referred to herein as a "permanent", "locked", or "locking" connection. Once disengaged, the bayonet connection is disabled and inhibits future connections unless a semi-permanent connection is provided whereby a separate key or tool is needed to intentionally disengage the securing feature. The inventive bayonet attachment system thus provides a more secure coupling of personal respiratory components, so that the positive disengagement cannot inadvertently happen. Additionally, sabotage or misuse of spent or contaminated components can be avoided. The invention also may allow for improved workplace management of the respiratory equipment.

In accordance with 37 CFR § 41.37, applicants submit a concise explanation of the subject matter defined in each of the independent claims involved in the appeal, which refers to the specification by page and line number and to the drawing, if any, by reference characters:

<u>Claim</u>	<u>Limitation</u>	<u>Support<sup>1</sup></u>
1	a personal respiratory protection device	Title; page 3, lines 11-12; Fig. 1, item 10
1	a mask body that is adapted to fit at least over a person's nose and mouth	Page 3, line 13; Fig. 1, item 11
1	at least one fluid communication component located in fluid communication with the mask body so that a non-contaminated source of oxygen can be supplied to a wearer of the personal respiratory protection device	Page 3, lines 14-16; Page 9, lines 15-23; Fig. 2, item 30
1	least one non-contaminated breathing gas supply source component	Page 7, lines 17-28; Fig. 2, item 20
1	at least one bayonet attachment system that enables the breathing gas supply source component to be fluidically communicatively secured to the fluid communication component	Page 3, lines 18-22; page 8, lines 6-7

<sup>1</sup> The support cited below for each item is not exclusive. Support also may be found elsewhere in the specification.

1	the bayonet attachment system comprising a first portion and a second portion, wherein when the first portion is attached to the second portion with a connection that is incapable of being inadvertently separated	Page 3, lines 20-22; page 10, lines 8-11; Fig. 2, items 30, 32, 36; Fig. 3, item 26
20	a personal respiratory protection device that has a bayonet attachment system	Fig. 1; page 7, line 9; page 8, lines 7-8; items 10, 26, and 30
20	the bayonet attachment system comprising a first portion and a second portion	Page 8, lines 8-11
20	the first portion comprises a tab receptacle and a tab void area	Page 9, lines 24 to page 10, line 7; Fig. 2
20	the second portion comprises a tab extending therefrom	Page 9, lines 24-35
20	the tab having a size no greater than the tab void area and no greater than the tab receptacle	Page 9, line 29 to page 10, line 6
20	wherein when the first portion is attached to the second portion to cause the tab to seat within the tab receptacle	Page 9, line 28 to page 10, line 18
20	a connection is formed that is incapable of being inadvertently removed	
25	a method of making a personal respiratory protection device	Page 25, line 1
25	providing a first portion of a bayonet attachment system comprising a tab receptacle and a tab void area	Page 8, lines 8-9; page 9, lines 28 to page 10, line 6
25	providing a second portion of a bayonet attachment system comprising a tab extending therefrom	Page 10, lines 8-19
25	the tab having a size no greater than the tab void area and no greater than the tab receptacle	Page 9, line 28 to page 10, line 6
25	wherein when the first portion is attached to the second portion to cause the tab to seat within the tab receptacle, a permanent connection is formed	Page 10, lines 7-18

25	locking the first portion of the bayonet system to the second portion of the bayonet system	Page 9, line 28 to page 10, line 6
25	by: (i) passing the tab through the tab void area; (ii) rotating the first portion in relation to the second portion; and (iii) seating the tab within the tab receptacle	

### **GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

#### **First Ground of Rejection**

Claims 1-14 and 17-27 have been rejected under 35 USC § 103(c) for claiming subject matter that would have been obvious over U.S. Patent 5,732,695 to Metzger in view of U.S. Patent 4,364,689 to Dumortier.

#### **Second Ground of Rejection**

Claims 1-3, 7-8, 10-16, 18-20, and 23-24 have been rejected under 35 USC § 103(a) for claiming subject matter that would have been obvious over U.S. Patent 5,732,695 to Metzger in view of U.S. Patent 5,741,084 to Del Rio et al ("Del Rio").

### **ARGUMENT**

#### **First Ground of Rejection**

Applicants claim a personal respiratory protection device that has a bayonet attachment system that enables a breathing gas supply source component to be fluidically communicatively secured to the fluid communication component. The bayonet attachment system comprises a first portion and a second portion where the first portion is attached to the second portion with a connection *that is incapable of being inadvertently separated*. Applicants have defined the term "incapable of being inadvertently removed or separated" to mean that the first and second portions are permanently joined or can be only separated through use of a key that unlocks the first and second portions without breaking or destroying either portion or a part that is used to provide a connection between such portions. The connection is only non-destroyingly separable

by using a key. None of the references cited by the Examiner teach or suggest this particular feature.

Metzger describes a respirator filtration device 10 that is "adapted for detachable use with a convention respirator 12." The filtration device 10 comprises a round disk having a front face 32 that faces forward when secured to the respirator face mask and a rear face 34 which faces the mask when secured in position. The Metzger filtration device 10 includes an inner breather tube 42 that projects outwardly from the rear face 34 of the device 10 for attachment to the respirator. Metzger explicitly states that "[t]he breather tube is adapted to be **detachably** connected to port wall 26..." (emphasis added). Thus, Metzger clearly teaches away from applicants' invention in that it suggests a detachable connection between the filter cartridge and the mask body.

Although Dumortier has been relied on for providing the teaching of a connection that is incapable of being inadvertently separated or removed, the subject matter of Dumortier is directed to a "manhole cover assembly". As the Board is aware, 35 USC § 103 requires that the invention as a whole would have been obvious at the time it was made to a person having ordinary skill in the art "*to which said subject matter pertains.*" The language "to which said subject matter pertains" has been interpreted to mean that art can only be applied in an obviousness rejection if it is analogous to the claimed invention. The Federal Circuit has recited two criteria for determining whether prior art is analogous: (1) whether the art is from the same field of endeavor, regardless of the problem addressed; and (2) whether the reference is reasonably pertinent to the particular problem with which the inventor is involved (if the reference is not within the field of the inventor's endeavor).<sup>2</sup> Neither of these criterion have been established in the present record. The subject matter of applicants' invention is a personal respiratory protection device. A manhole cover does not reside in this field. The Examiner has not made any evidence of record, which establishes that a manhole cover assembly is in the art pertinent to the respiratory protection. Nor has the Examiner shown that a manhole cover patent is *reasonably* pertinent to the problem of adequately securing respirator filter cartridges to mask bodies. As such, the rejection under 35 USC § 103 cannot be properly sustained.

Even if Dumortier did reside in an analogous field, however, the record also does not present any evidence that the Dumortier teachings could be suitably combined with those of

Metzger. As indicated above, Metzger describes a filtration device that is adapted for detachable use with a conventional respirator. Metzger intends to provide a breather tube that is detachably connected to a port wall. Thus, Metzger has no intention of providing a respiratory protection device where first and second portions of a bayonet system can be attached to each other such that they are incapable of being inadvertently separated. But even if we assume that Metzger desired such an attachment, Dumortier would not provide a solution to such a need. Dumortier describes a manhole cover attachment that is resistant to vibrations imparted by passing traffic. The Dumortier device uses a pawl 7 that is pivotably mounted at one of its ends such that when the flange 15 is placed in its upright position as shown in Figure 7, a worker can grasp it to lift the cover 3 from the ring 2. In the respiratory art, users can easily rotate the filter cartridges to remove them from the opposing bayonet fitting. There is no need for providing rotatable palls 7 that have handles 15 which become available for grasping when removal is desired. Thus, the record does not reflect any reason why a person of ordinary skill would have reason to use the teachings of Dumortier in Metzger or vice versa.

### **Second Ground of Rejection**

U.S. Patent 5,741,084 to Del Rio et al. (Del Rio) also has been cited as a secondary reference for showing the "incapable of being an inadvertently separated" feature. Like Dumortier, the record also does not show that Del Rio resides in an analogous field, allowing it to be appropriately combined under 35 USC § 103. Del Rio describes a connection for surgical instruments. The Del Rio device does not have air flowing through it. Further, and in any event, the two tubes, which were relied on by the Examiner for disclosing the "incapable of being inadvertently separated feature" are attached in a removable manner.<sup>3</sup> Thus, Del Rio would not have made applicants' invention obvious to a person of ordinary skill when combined with Metzger.

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<sup>2</sup> *In re Deminski*, 796 F.2d 436, 442, 230 USPQ 313, 315 (Fed. Cir. 1986).

<sup>3</sup> See Del Rio at column 3, lines 15-16.

**CONCLUSION**

For the foregoing reasons, appellants respectfully submit that the Examiner has erred in rejecting this application. Please reverse the decision below.

Respectfully submitted,

July 2, 2009

Date

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**CLAIMS APPENDIX**

1. A personal respiratory protection device that comprises:
  - (a) a mask body that is adapted to fit at least over a person's nose and mouth;
  - (b) at least one fluid communication component located in fluid communication with the mask body so that a non-contaminated source of oxygen can be supplied to a wearer of the personal respiratory protection device;
  - (c) at least one non-contaminated breathing gas supply source component; and
  - (d) at least one bayonet attachment system that enables the breathing gas supply source component to be fluidically communicatively secured to the fluid communication component, the bayonet attachment system comprising a first portion and a second portion, wherein when the first portion is attached to the second portion a connection is created that is incapable of being inadvertently separated.
2. The personal respiratory protection device of claim 1 being a respiratory mask that has at least one filter cartridge as the at least one non-contaminated breathing gas supply source component.
3. The respiratory mask of claim 2, wherein the first portion of the bayonet attachment system comprises a first tab receptacle, a first ramp portion, and a first tab void area, and wherein the second portion comprises a first tab extending therefrom, the first tab having a size no greater than the first tab void area and no greater than the first tab receptacle, wherein when the first portion is attached to the second portion to cause the first tab to seat within the first tab receptacle, a connection is formed that is incapable of being inadvertently removed.
4. The respiratory mask of claim 2, wherein the connection is permanent.
5. The respiratory mask of claim 2, wherein the connection can only be unlocked with a key.

6. The personal respiratory protection device of claim 1, wherein the bayonet attachment system further comprises a third part, wherein disengagement of the first portion from the second portion requires breaking the first portion, the second portion, the third part, and any part or combination thereof.

7. The personal respiratory protection device of claim 1, wherein the bayonet attachment system comprises a locking device that is integral with the first portion, the second portion, or a combination thereof.

8. The personal respiratory protection device of claim 1, wherein the bayonet attachment system comprises a locking device that is integrated into the first portion, the second portion, or a combination thereof.

9. The personal respiratory protection device of claim 1, wherein the connection can be separated through use of a key.

10. The personal respiratory protection device of claim 1, being a powered air-purifying respirator.

11. The personal respiratory protection device of claim 1, being a self-contained breathing apparatus.

12. The personal respiratory protection device of claim 1, being a full-face respirator.

13. The personal respiratory protection device of claim 1, being a supplied air hood.

14. The personal respiratory protection device of claim 1:  
wherein the first portion further comprises a ramp portion and a tab receptacle; and  
wherein the tab receptacle of the first portion is defined by a first wall and an opposite second wall, the first wall defined by the ramp portion.

15. The personal respiratory protection device of claim 14, wherein the ramp portion comprises a spring mechanism and a first end, the first end defining the first wall of the tab receptacle.

16. The personal respiratory protection device of claim 15, wherein the ramp portion further comprises a second end opposite the first end, and wherein the ramp portion is attached to an inner surface at the second end.

17. The personal respiratory protection device of claim 1, wherein:

(a) the first portion has an aperture therethrough, and

(b) the second portion comprises a body having an aperture therethrough, the body configured for attachment to the first portion such that the first portion aperture aligns with the body aperture.

18. The personal respiratory protection device of claim 3, wherein:

(a) the first portion further comprises a second tab receptacle, a second ramp portion, and a second tab void portion; and

(b) the second portion further comprises a second tab extending from the body outer surface.

19. The personal respiratory protection device of claim 18, wherein the first portion further comprises a third tab receptacle, a third ramp portion, and a third tab void portion; and wherein the second portion further comprises a third tab extending from the body outer surface.

20. A personal respiratory protection device that has a bayonet attachment system, the bayonet attachment system comprising a first portion and a second portion, wherein:

(a) the first portion comprises a tab receptacle and a tab void area; and

(b) the second portion comprises a tab extending therefrom, the tab having a size no greater than the tab void area and no greater than the tab receptacle;

wherein when the first portion is attached to the second portion to cause the tab to seat within the tab receptacle, a connection is formed that is incapable of being inadvertently removed.

21. The personal respiratory protection device of claim 1, wherein the connection can only be unlocked with a key.

22. The personal respiratory protection device of claim 1, wherein the connection is permanent.

23. A method of making a personal respiratory protection device, which method comprises:

- (a) providing at least one fluid communication component;
- (b) providing at least one non-contaminated breathing gas supply source component;
- (c) providing at least one bayonet attachment system that comprises a first portion and a second portion; and
- (d) joining the first portion to the second portion to form a connection that is incapable of being inadvertently removed.

24. The method of claim 23, wherein the at least one fluid communication component comprises at least one fitting disposed on a mask body, and the at least one breathing gas supply source component comprises at least one filter cartridge.

25. A method of making a personal respiratory protection device, comprising:

- (a) providing a first portion of a bayonet attachment system comprising a tab receptacle and a tab void area;
- (b) providing a second portion of a bayonet attachment system comprising a tab extending therefrom, the tab having a size no greater than the tab void area and no greater than the tab receptacle; wherein when the first portion is attached to the second portion to cause the tab to seat within the tab receptacle, a permanent connection is formed,
- (c) locking the first portion of the bayonet system with the second portion of the bayonet system by:
  - (i) passing the tab through the tab void area;
  - (ii) rotating the first portion in relation to the second portion; and
  - (iii) seating the tab within the tab receptacle.

26. A method of un-making a personal respiratory protection device, comprising the steps of claims 25 and further comprising:

(d) unlocking the first portion of the bayonet system from the second portion by using a key.

27. A method of un-making a personal respiratory protection device, comprising the steps of claims 25 and further comprising:

(d) removing the first portion of the bayonet system from the second portion by destroying at least one of the first portion and the second portion.

**EVIDENCE APPENDIX**

None.

**RELATED PROCEEDINGS APPENDIX**

None.